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EXAMINER

HIRL, JOSEPH P

ART UNIT PAPER NUMBER

2129

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Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|-------------------------------|--------------------------------|--|
| Office Action Summary | Application No. 10/630,854 | Applicant(s) JOHNSON ET AL. | |
| | Examiner Joseph P. Hirl | Art Unit 2129 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is in response to an AMENDMENT entered June 16, 2006 for the patent application 10/630,854 filed on July 31, 2003.
2. The First Office Action of March 16, 2006 is fully incorporated into this Final Office Action by reference.

Status of Claims

3. Claims 1-39 are pending.

Claim Objection

4. Claim 19 is an improper Markush and must be corrected.

Claim Rejections - 35 USC § 101

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

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6. Claims 1-39 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claims do not identify a practical application that produces a useful, tangible and concrete result using the claimed methodology. Rubber-Tip Pencil Co. v. Howard, 87 U.S. (20 Wall.) 498, 507 (1874)

The USPTO published the "Interim Guidelines for Examination of Patent Applications for Subject Matter Eligibility" on October 26, 2005 and posted such guidelines to the uspto.gov website which are used in this examination.

A useful result must manifest the features of specificity, substantialness and creditability. The instant application lacks specificity as the following examples exhibit:

Claims 1., 35., 39. ...selectively presenting for review and correction ...

Claim 25., 38. ... any annotation ... is presented for review

Claim 26. ...any annotation ...will be presented to the user

Also a tangible result must not exhibit abstractness. The instant application has abstract results as noted by the following examples:

Claims 1., 35., 39. ...selectively presenting for review and correction ... if such representations never leave the processor, there isn't any tangible result.

Claim 25., 38 ... iteratively learning never produces a tangible result

Claim 26. ...will be presented to the user ... is not a tangible result until such has been presented to the user.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1-39 are rejected under 35 U.S.C. 102(e) as being anticipated by Basu et al (U.S. Pub 2004/0205482, referred to as Basu).

The applied reference has a common assignee with the instant application.

Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention “by another,” or by an appropriate showing under 37 CFR 1.131.

Claims 1, 35, 39

Basu anticipates providing at least partially annotated text data or unannotated text data with seeds or seed models of instances of at least one named entity or class to be learned (**Basu**, Abstract); iteratively learning annotators for the at least one named entity or class using a machine learning algorithm (**Basu**, Abstract); applying the learned annotators to text data resulting in the annotation of at least one named entity or class annotation instance (**Basu**, Abstract); and selectively presenting for review and

correction, if determined, representations of the at least one named entity or class annotation instance identified by the applying of the learned annotators (**Basu**, ¶ 0036; Examiner's Note (EN): disambiguate and correction are functionally equivalent).

Claim 2

Basu anticipates the annotations instances are selectively presented for review and correction, if determined, based on a predetermined threshold value of a confidence level (**Basu**, ¶ 0072).

Claim 3

Basu anticipates the step of iteratively learning includes incrementally improving the learned annotators (**Basu**, ¶ 0036; EN: disambiguate and correction are functionally equivalent; iteration will reduce disambiguation).

Claim 4

Basu anticipates the at least one named entity is any syntactic, semantic or notional type that can be identified as a type and named (**Basu**, ¶ 0008; EN: such is the classification operation).

Claim 5

Basu anticipates the seeds or seed models are at least one of lists, dictionaries, glossaries, patterns and database entries (**Basu**, ¶ 0013; EN: database entries are synonymous with multimodal representations of semantic classes).

Claim 6

Basu anticipates providing a log of corrections of removed or altered annotation instances (**Basu**, ¶ 0013; EN: database entries are synonymous with multimodal representations of semantic classes; a log is a database).

Claim 7

Basu anticipates the log of corrections are optionally used to override any of the at least one named entity or class annotation instance inconsistent with the log (**Basu**, ¶ 0013; EN: database entries are synonymous with multimodal representations of semantic classes; a log is a database; storing such an entity will cause an override).

Claim 8

Basu anticipates preprocessing groups of words or phrases into single units before the iteratively learning step (**Basu**, ¶ 0036; EN: disambiguate requires preprocessing).

Claim 9

Basu anticipates wherein the applying step provides confidence levels for each annotation instance such that the learned annotators and their respective confidence levels are used to selectively present some of the representations of the at least one named entity or class annotation instance (**Basu**, ¶ 0072).

Claim 10

Basu anticipates if confidence levels do not fall within a closed interval then a transformation will be applied to map a confidence level range onto the closed interval

[0 ... 1] for purposes of presentation to the user (**Basu**, ¶ 0074-0076; EN: confidence level is a closed interval since all values are real).

Claim 11

Basu anticipates one of (i) an automatic acceptance of the at least one named entity or class annotation instance, (ii) an automatic rejection of the at least one named entity or class annotation instance, and (iii) the selective presentation of the at least one named entity or class annotation instance (**Basu**, ¶ 0028).

Claim 12

Basu anticipates the annotation instances above the adjusted confidence level will automatically be accepted as valid and used in a next training phase; and the annotation instances below the adjusted confidence level will automatically be rejected as invalid (**Basu**, ¶ 0028).

Claim 13

Basu anticipates the annotator for a particular named entity or class includes using labeling schemes (**Basu**, ¶ 0028).

Claim 14

Basu anticipates the learned annotators are applied to text data to annotate new instances or correct previous annotations, wherein each of the at least one named entity or class annotation instance is assigned a confidence level estimating a probability that the assignment is correct (**Basu**, ¶ 0028).

Claim 15

Basu anticipates on of: (i) selecting specific annotation instances, (ii) selecting an entire list of annotation instances that was presented for viewing, and (iii) inspecting bins of the annotation instances in context, where the bins correspond to confidence level ranges (**Basu**, ¶ 0028; EN: such are the selected examples).

Claim 16

Basu anticipates wherein the bins allow a user to inspect some examples and if they are correct, choose to one of accept and reject with one action all instances in that bin (**Basu**, ¶ 0028; EN: bins are sets of categories or classifications related to annotations).

Claim 17

Basu anticipates if the user determines some examples in a particular bin of the inspected bins are correct, all of the at least one named entity or class annotation instance can be accepted within the particular bin and all bins with higher confidence level ranges than the accepted bin such that, at one time, entire groups of all the at least one named entity or class annotation instance can be accepted (**Basu**, ¶ 0028; EN: ambiguity is the discriminator and sets the criteria for acceptance).

Claim 18

Basu anticipates wherein if the user determines some examples in a particular bin of the inspected bins are incorrect, all of the at least one named entity or to class annotation instance can be rejected within the particular bin and all bins with lower confidence level ranges than the rejected bin such that, at one time, entire

groups of all the at least one named entity or class annotation instance can be rejected (**Basu**, ¶ 0028; EN: ambiguity is the discriminator and also sets the criteria for rejection).

Claim 19

Basu anticipates comprising correcting the at least one named entity or class annotation instance by deleting annotation instances, rebracketing annotation instances, relabeling annotation instances, adding or deleting annotation instances or any combination of rebracketing and relabeling (**Basu**, ¶ 0028; EN: ambiguity affects the relabeling).

Claim 20

Basu anticipates one of at each stage of learning in the iterative learning step, previously learned annotators are discarded and entirely new annotators are learned from current training data, and at each stage of learning in the iterative learning step, previously learned annotators are updated (**Basu**, ¶ 0028; EN: such will be the action taken with ambiguous terms).

Claim 21

Basu anticipates correcting the annotation instances when a confidence level associated with the annotation instances falls within a predetermined range (**Basu**, ¶ 0028).

Claim 22

Basu anticipates confidence levels associated with each of the annotation instances is generated using the Generalized Winnow learning algorithm (**Basu**, ¶ 0028; EN: applicant's Generalized Winnow technique is a probabilistic value).

Claim 23

Basu anticipates the step of determining that a sequence of token level classifications and associated confidence levels constitutes an instance of a type of named entity or class (**Basu**, ¶ 0028; EN: such is Basu's maximum confidence for the system; functionally the same in achieving classification).

Claim 24

Basu anticipates the determining step determines that a consecutive sequence of one or more tokens each of which is labeled with one or more of the types of named entity or class and each type assignment of which has an associated confidence level that equals or exceeds a required confidence level to be in a type of named entity or class is a candidate annotation instance of the type of named entity or class (**Basu**, ¶ 0028, 0034, 0035; 0038; EN: such is Basu's annotation concept of removing ambiguity and annotating by classifying).

Claims 25, 38

Basu anticipates providing examples of a type of a named entity and unannotated textual data (**Basu**, Abstract); and iteratively learning annotators based on at least one of the examples of a named entity and unannotated textual data (**Basu**, Abstract), where at the end of each iteration, any annotation, generated from the

learned annotators, having a confidence level within a confidence level range is presented for review and, if required, corrected based on feedback (**Basu**, Abstract; ¶ 0028; EN: such is feedback from the user).

Claim 26

Basu anticipates a user sequentially labeling annotation instances in a current document from a document set (**Basu**, Abstract); a machine learning algorithm concurrently training on the documents in the document set to learn at least one annotator for at least one named entity or class (**Basu**, Abstract); and assigning a confidence level to each of the annotation instances by the learned at least one annotator such that any annotation instance which has a confidence level that is equal to or above a predetermined confidence level threshold and that occurs in a current document being labeled will be presented to the user for review and possible action (**Basu**, Abstract; ¶ 0028).

Claim 27

Basu anticipates discarding the annotation instances determined by the machine learning system which fall below the predetermined confidence level threshold (**Basu**, Abstract; ¶ 0028; EN: such is the concern for ambiguity).

Claim 28

Basu anticipates each named entity or class type has a separate confidence level threshold (**Basu**, ¶ 0072).

Claim 29

Basu anticipates wherein the machine learning system continuously updates its knowledge state based on flow of new annotations from the labeled documents and applies this knowledge state, as an updated annotator or annotators, to a current document being labeled to suggest a new or new annotations for the current document being worked on (**Basu**, Abstract; claim 14).

Claim 30

Basu anticipates providing sample text with seeds for the type of named entity or class as training data (**Basu**, Abstract; EN: seeds are example data).

Claim 31

Basu anticipates one of the user explicitly accepting the presented annotation instance; the user explicitly rejecting the presented annotation instance; the user rebracketing and explicitly accepting the presented annotation instance; the user relabeling and explicitly accepting the presented annotation instance; and the user rebracketing, relabeling and explicitly accepting the presented annotation instance (**Basu**, ¶ 0028; EN: user rejects annotation and establishes an alternative to remove the ambiguity).

Claim 32

Basu anticipates further comprising accepting annotation instances which are not explicitly rejected by the user (**Basu**, ¶ 0028; EN: such would be the user not changing a condition of ambiguity).

Claim 33

Basu anticipates wherein the accepting of annotation instances not explicitly rejected by the user is accomplished implicitly by the user moving to a new document or explicitly by taking an acceptance action (**Basu**, ¶ 0028; EN: such would be the user not changing a condition of ambiguity).

Claim 34

Basu anticipates accepting annotation instances which were corrected, relabeled, rebracketed or added by the user (**Basu**, ¶ 0028; EN: such would be the user changing annotation under the consideration of ambiguity).

Claim 36

Basu anticipates a component to export the final annotators for use in processing electronic text (**Basu**, Abstract).

Claim 37

Basu anticipates a component to determine confidence levels associated with the individual annotation instances (**Basu**, 0072).

Response to Arguments

9. The objection to Claim 19 remains. As indicated in the First Office Action of March 16, 2006, the subject claim was objected to and the reason for the objection was that the claim represents an improper Markush. Deleting annotation is stated twice both alone and in conjunction with adding. Combination of rebracketing and relabeling is

done without any reference. Ambiguity is further introduced since adding can be considered combination and deleting can be interpreted as rebracketing. Simply stated, a person having ordinary skill in the art (PHOSITA) would be confused with the limitations of claim 19. Hence the claim is improper and the reason for an improper objection is Markush.

10. The rejection of Claim 7 under 35 USC §112, 2nd paragraph is withdrawn.

11. Applicant's arguments filed on June 16, 2006 related to Claims 1-39 rejected under 35 USC § 101 have been fully considered but are not persuasive.

In reference to Applicant's argument:

Applicants initially submit that the Examiner has failed to establish a prima facie case of unpatentability with respect to at least independent claim 38 because the Examiner has not provided any explanation as to why claim 38 is considered to be directed to non-statutory subject matter. More particularly, Applicants note that the Examiner is completely silent as to why claim 38 is considered to be directed to non-statutory subject matter. Therefore, the rejection of claim 38 is improper and should be withdrawn.

Examiner's response:

First Office Action of March 16, 2006, page 3, line 1 states "Claims 1-39 are rejected under 35 USC § 101 because the claimed invention is directed to non-statutory subject matter. The claims do not identify a practical application that produces a useful, tangible and concrete result using the claimed methodology. Rubber-Tip Pencil Co. v. Howard, 87 U.S. (20 Wall.) 498, 507 (1874)" Further, "The Interim Guidelines for Examination for Patent Applications for Subject Matter Eligibility" were cited. This was followed by examples related to claims 1, 25, 26, 35 and 39. The body of claim 38 is identical in concept to that of claim 25 and therefore is considered to have been included without redundancy

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In reference to Applicant's argument:

Applicants submit that, contrary to the mandate of the Guidelines, the Examiner is not considering the claimed invention as a whole, but, rather, is dissecting the claimed invention into discrete elements and then evaluating the elements in isolation. For example, the Examiner asserts that claims 1, 35 and 39 do not produce a useful result because they contain the limitation "... selectively presenting for review and correction...". The Examiner also asserts that claim 25 does not produce a useful result because it contains the limitation "... any annotation ... is presented for review...". The Examiner further asserts that claim 26 does not produce a useful result because it contains the limitation "... any annotation ... will be presented to the user...". Applicants respectfully disagree and submit that the Examiner is improperly focusing on individual elements of the claims, and not on the claimed invention as a whole.

Applicants contend that the claimed invention as a whole does indeed produce a useful result in that it possesses specific, substantial, and credible utility. The invention generally relates to a system and method that learns from examples how to annotate information from unstructured or semi-structured textual data. All of the independent claims (i.e., claims 1, 25, 26, 35, 38, and 39) recite a method or system for learning annotators, comprising iteratively learning annotators. As will be readily apparent to one of ordinary skill in the art, annotators such as those learned (i.e., created) by the claimed invention can be used for numerous purposes, such as, for example: automatically annotating (e.g., highlighting) search results of text data, and improving the results of machine translations of text data (see pages 2-3 of the specification of the instant application). These uses are specific to the subject matter claimed, are substantial in that they define a real world use, and are credible to one of ordinary skill in the art. Therefore, the claimed invention as a whole does produce a useful result.

Examiner's response:

The subject claims have been reviewed systemically and the results stated specifically. Simply stated, the claims do not follow "The Interim Guidelines for Examination for Patent Applications for Subject Matter Eligibility" as specifically stated in the First Office Action ... the claims must produce a practical application that produces a useful, tangible and concrete result... i.e. a **result** that is a practical application and must be so stated. Methodology such as annotation without a specific result is abstract. Applicant is reminded the claims and only the claims form the metes and bounds of the invention and limitations appearing in the specification but not recited in the claim are not read into the claim.

In reference to Applicant's argument:

Applicants submit that the following passages from pages 7-8 of the specification of the instant application constitute an assertion that the claimed invention is useful for a particular practical purpose:

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The invention is directed to a semi-automatic interactive learning system and method for building and training annotators used in electronic messaging systems, text document analysis systems, information retrieval systems and similar systems After one or more iterations, a more reliable automated annotator system is produced for exporting and general use by other applications so that documents may be automatically analyzed using the annotation system to perform further operations on the documents such as, for example, routing or searching of the documents.
(emphasis added)

...

In this manner, the system and method of the invention produces a final set of one or more annotators to be used by a general annotator-applier on arbitrary text input, which determines specific instances of annotations and in addition, assigns confidence levels indicating the likelihood that annotation instances are correct. As demonstrated by these passages, Applicants have clearly asserted that the claimed invention is useful for a particular purpose that would be considered credible by a skilled artisan.

Therefore, the claimed invention as a whole has a useful result. As such, the Examiner has improperly imposed a rejection based on a lack of utility, and the rejection of claims 1-39 for lack of utility should be withdrawn.

Examiner's response:

Applicant is reminded the claims and only the claims form the metes and bounds of the invention and limitations appearing in the specification but not recited in the claim are not read into the claim.

In reference to Applicant's argument:

With respect to the tangible result requirement, Applicants again submit that the Examiner is not considering the claimed invention as a whole, but, rather, is improperly dissecting the claimed invention into discrete elements and then evaluating the elements in isolation. For example, the Examiner asserts that claims 1, 35, and 39 have "abstract results" because of the recitation "selectively presenting for review and correction". Also, the Examiner asserts that claim 25 has an abstract result because of the recitation "iteratively learning". Lastly, the Examiner asserts that claims 26 has an abstract result because of the recitation "will be presented to the user". Applicants respectfully disagree and submit that the Examiner is improperly focusing on individual elements of the claims, and not on the claimed invention as a whole.

Applicants initially submit that the Examiner's explanation fails to establish a prima facie case of unpatentability. More particularly, with respect to claims 1, 35, and 39, the Examiner states that "if such representations never leave the processor, there isn't any tangible result". Applicants note that a "processor" is not recited in any of claims 1, 35, and 39. Therefore, the Examiner's explanation is not directed to the claimed invention and fails to establish a prima facie case of unpatentability.

Examiner's response:

The subject claims have been reviewed systemically and the results stated specifically. Simply stated, the claims do not follow "The Interim Guidelines for Examination for Patent Applications for Subject Matter Eligibility" as specifically stated in the First Office Action ... the claims must produce a practical application that produces a useful, tangible and concrete result... i.e. a **result** that is a practical application and must be so stated. Methodology such as annotation without a specific result is abstract. Applicant is reminded the claims and only the claims form the metes and bounds of the invention and limitations appearing in the specification but not recited in the claim are not read into the claim.

With regard to the subject of processor, PHOSITA knows (its axiomatic) that machines used to implement methodology such as annotation will have processors ... such is a von Neuman computer.

In reference to Applicant's argument:

In any event, Applicants contend that the claimed invention as a whole does indeed produce a tangible result in that it produces a real world result, as opposed to reciting a mere §101 judicial exception (e.g., abstract ideas, laws of nature, natural phenomena). As discussed above, the invention generally relates to a system and method that learns from examples how to annotate information from unstructured or semi-structured textual data. All of the independent claims (i.e., claims 1, 25, 26, 35, 38, and 39) recite a method or system for learning annotators, comprising iteratively learning annotators. The real world result is the learned annotator that is created. As discussed above, such an annotator can be used in numerous specific applications, such as, for example, automatically analyzing text data for the purpose of searching or routing of documents. These are clearly a real world (i.e., not abstract) results.

The Examiner, however, is improperly focusing on the individual steps of the how the annotator is created (e.g., iteratively learned, selectively presented for review, will be presented to the user, etc.), and is not considering the final result (i.e., the annotator itself). This is contrary to the language of the Guidelines, which states:

In determining whether the claim is for a "practical application," the focus is not on whether the steps taken to achieve a particular result are useful, tangible and concrete, but rather that the

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final result is "useful, tangible and concrete." (Guidelines at Section IV and again at Annex II, Section B).

Examiner's response:

The claims must bring forth limitations that identify a result that is a practical application. Annotation as a methodology is abstract ... the annotation must be applied to something to produce a result that is a practical application ... to what is the annotation applied? The answer has to be specific or the claim is abstract ... or alternatively, to be considered a preemption of ideas.

12. Applicant's arguments filed on June 16, 2006 related to Claims 1-39 rejected under 35 USC § 102(e) have been fully considered but are not persuasive.

In reference to Applicant's argument:

In a preferred embodiment, Basu discloses annotating video content (see paragraphs 0037 through 0079, and FIGS. 8 through 15). Basu does not, however, describe providing at least partially annotated text data or unannotated text data with seeds or seed models, as recited in the claimed invention. Moreover, Basu does not disclose applying the learned annotators to text data, as recited in the claimed invention. Instead, Basu only describes providing unannotated video data, i.e., the TREC Video Corpus (para. 0037), not partially annotated text data or unannotated text data. Moreover, Basu is completely silent as to seeds or seed models. Lastly, Basu only describes applying annotators to video data (paras. 0037-0079), not to text data.

Examiner's response:

¶ 16. applies. The claims and only the claims form the metes and bounds of the invention. Limitations appearing in the specification but not recited in the claim are not read into the claim. From the Basu abstract, "Disclosed is an annotation framework in which supervised training with partially labeled data is facilitated using active learning." Hence Basu anticipates the applicant's training disclosure. Basu teaches at ¶ 0008 prior art that addresses text classification using Support Vector Machines. Basu further

addresses multimedia which has a subset text data. Learning and classifying concerning text data is not functionally distinct from that of multimedia since text data has an image content and the examiner is obligated to interpret the claims in the broadest reasonable manner. The concept of seeds or seed models is merely the concept of labeling or classifying which is fundamental to Basu.

In reference to Applicant's argument:

As discussed above, Basu discloses: providing unannotated examples of multimedia content, accepting input annotations from a user for the examples, and propagating the input annotations to other instances of multimedia content. However, Basu does not disclose providing examples of a type of a named entity and unannotated textual data, as recited in the claimed invention. To the contrary, Basu only describes providing unannotated multimedia data, preferably video data, and does not describe providing unannotated textual data. Moreover, Basu does not disclose providing both examples and unannotated data. Instead, Basu discloses that the unannotated data is the example that the user then provides an annotation for.

Examiner's response:

¶ 16. applies. As indicated above Basu provides for supervised training which anticipates the applicant's named entity and unannotated textual data. Basu addresses text classification and multimedia which has a subset of text data. Further, learning and classifying concerning text data is not functionally distinct from that of multimedia since text data has an image content and the examiner is obligated to interpret the claims in the broadest reasonable manner.

In reference to Applicant's argument:

Lastly, Basu does not disclose that at the end of each iteration, any annotation generated from the learned annotators, having a confidence level within a confidence level range, is corrected based on feedback, as recited in the claimed invention. Instead, Basu discloses that a measure of ambiguity or confidence is used to select which examples of unannotated data to present to the user (paras. 0028, 0038, and 0072). Thus, Basu implicitly discloses measuring the ambiguity (i.e., confidence) of an example of unannotated data, not of a generated annotation, as recited in the claimed invention. Moreover, Basu uses the measure of the ambiguity (i.e., confidence) to select an example for presentation to the user at the beginning of an iteration, not at the end of each iteration, as recited in the

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claimed invention. Lastly, Basu does not disclose a confidence level within a confidence level range. Basu is completely silent as to a confidence level range.

Examiner's response:

¶ 16. applies. Basu @ ¶ 0028 teaches neural network classifiers which are iteration and supervised trained wherein the neuron weights are adjusted based on a difference or confidence level (reviewed) and corrected (weights). PHOSITA recommends the MIT "Elements of Artificial Neural Networks" by Mehrotra © 1997.

In reference to Applicant's argument:

As discussed above, Basu discloses: providing unannotated examples of multimedia content, accepting input annotations from a user for the examples, and propagating the input annotations to other instances of multimedia content. Basu does not disclose a current document and document set, as recited in claim 26. Instead, Basu describes a single video document (i.e., the TREC Video Corpus) on which the user provides annotations and the system concurrently trains.

Examiner's response:

¶ 16. applies. Basu addresses text classification @ ¶ 0008 and multimedia which has a subset of text data. Further, learning and classifying concerning text data is not functionally distinct from that of multimedia since text data has an image content and the examiner is obligated to interpret the claims in the broadest reasonable manner.

In reference to Applicant's argument:

Furthermore, Basu does not disclose assigning a confidence level to each annotation instance. Instead, the Basu system suggests examples to be annotated based on an ambiguity measurement of the example itself. The annotations are then verified (accepted or rejected) by the user, and accepted annotations are stored and propagated (paras. 0028 and 0034). Thus, in Basu, the only quantitative measure of ambiguity or confidence is provided for the example of unannotated data itself, and not for the annotation instance. However, this is not the same as assigning a confidence level to each annotation instance. Therefore, Basu does not contain all of the features of claim 26 and does not anticipate the claimed invention.

Examiner's response:

¶ 16. applies. Basu @ ¶ 0028 teaches neural network classifiers which are iteration and supervised trained wherein the neuron weights are adjusted based on a difference or confidence level (reviewed) and corrected (weights). PHOSITA recommends the MIT "Elements of Artificial Neural Networks" by Mehrotra © 1997.

In reference to Applicant's argument:

For example, Basu does not disclose preprocessing groups of words or phrases into single units before the iteratively learning step, as recited in claim 8. Even assuming arguendo that disambiguating requires preprocessing (as asserted by the Examiner, which Applicants do not agree with or concede, Basu still does not disclose preprocessing groups of words or phrases into single units.

Examiner's response:

¶ 16. applies. Basu @ 0031 sets forth the preprocessing of annotations. Again since the examiner is obligated to interpret the claims in the broadest reasonable manner, the concept of single units can be anything and hence Basu's user providing annotation from the vocabulary qualifies.

In reference to Applicant's argument:

Furthermore, Basu does not disclose that if confidence levels do not fall within a closed interval then a transformation will be applied to map a confidence level range onto the closed interval $[0 \dots 1]$ for purposes of presentation to the user, as recited in claim 10. Contrary to the Examiner's assertion, Basu simply makes no mention of applying a transformation to map a confidence level onto the closed interval of $[0 \dots 1]$.

Examiner's response:

¶ 16. applies. Alternatively to the ambiguity measurements, if the iteration is out of range, the weights are adjusted (transformed) and a different classification is established. The closed interval is established by the difference equation of the training iteration. The closed interval of 0-1 is merely the normalization of the difference equation. Basu @ ¶ 0028 teaches neural network classifiers which are iteration and

supervised trained wherein the neuron weights are adjusted based on a difference or confidence level (reviewed) and corrected (weights). PHOSITA recommends the MIT "Elements of Artificial Neural Networks" by Mehrotra © 1997.

In reference to Applicant's argument:

Even further, Basu does not disclose that bins allows a user to inspect some examples and choose to accept or reject all instances in that bin, as recited in claim 16. To the contrary, Basu only describes that the user verifies each annotation instance singularly, and makes no mention whatsoever of bins of annotation instances and of accepting or rejecting all instances in a bin.

Examiner's response:

¶ 16. applies. Bins are merely classifications and Basu @ 0028 anticipates acceptance/rejection on the basis of ambiguity.

In reference to Applicant's argument:

Additionally, Basu does not disclose that confidence levels associated with each of the annotation instances are generated using the Generalized Winnow learning algorithm, as recited in claim 22. Regardless of whether or not the Generalized Winnow learning algorithm is a probabilistic value, as asserted by the Examiner but which Applicants do not concede, Basu does not disclose using the Generalized Winnow learning algorithm.

Examiner's response:

¶ 16. applies. Specification @ page 25, lines 1-7 equates any machine learning algorithm to a so-called Generalized Winnow technique and hence the Basu quantitative measure of ambiguity @ 0028 qualifies.

Examination Considerations

13. The claims and only the claims form the metes and bounds of the invention.

“Office personnel are to give the claims their broadest reasonable interpretation in light of the supporting disclosure. *In re Morris*, 127 F.3d 1048, 1054-55, 44USPQ2d 1023, 1027-28 (Fed. Cir. 1997). Limitations appearing in the specification but not recited in the claim are not read into the claim. *In re Prater*, 415 F.2d, 1393, 1404-05, 162 USPQ 541, 550-551 (CCPA 1969)” (MPEP p 2100-8, c 2, I 45-48; p 2100-9, c 1, I 1-4). The Examiner has full latitude to interpret each claim in the broadest reasonable sense. Examiner will reference prior art using terminology familiar to one of ordinary skill in the art. Such an approach is broad in concept and can be either explicit or implicit in meaning.

14. Examiner's Notes are provided with the cited references to prior art to assist the applicant to better understand the nature of the prior art, application of such prior art and, as appropriate, to further indicate other prior art that maybe applied in other office actions. Such comments are entirely consistent with the intent and spirit of compact prosecution. However, and unless otherwise stated, the Examiner's Notes are not prior art but a link to prior art that one of ordinary skill in the art would find inherently appropriate.

15. Unless otherwise annotated, Examiner's statements are to be interpreted in reference to that of one of ordinary skill in the art. Statements made in reference to the condition of the disclosure constitute, on the face of it, the basis and such would be

obvious to one of ordinary skill in the art, establishing thereby an inherent prima facie statement.

16. Examiner's Opinion: ¶¶ 13-15 apply. The Examiner has full latitude to interpret each claim in the broadest reasonable sense.

Conclusion

17. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

18. Claims 1-39 are rejected.

Correspondence Information

Any inquiry concerning this information or related to the subject disclosure should be directed to the Primary Examiner, Joseph P. Hirl, whose telephone number is (571) 272-3685. The Examiner can be reached on Monday – Thursday from 6:00 a.m. to 4:30 p.m.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, David R. Vincent can be reached at (571) 272-3080.

Any response to this office action should be mailed to:

Commissioner of Patents and Trademarks,
Washington, D. C. 20231;

Hand delivered to:

Receptionist,
Customer Service Window,
Randolph Building,
401 Dulany Street,
Alexandria, Virginia 22313,

(located on the first floor of the south side of the Randolph Building);

or faxed to:

(571) 273-8300 (for formal communications intended for entry.

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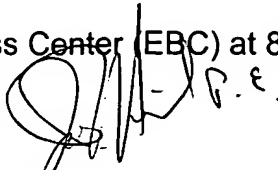
Art Unit: 2129

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Business Center (EBC) at 866-217-9197 (toll free).



Joseph P. Hirl
Primary Examiner
August 17, 2006